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**AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR,**

**CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,**  
**GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,**  
**KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,**  
**MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO,**  
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**eurasisches Patent (AM, AZ, BY, KG, KZ, MD, RU, TJ,**  
**TM), europäisches Patent (AT, BE, BG, CH, CY, CZ, DE,**  
**DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,**  
**PT, RO, SE, SI, SK, TR), OAPI-Patent (BF, BJ, CF, CG,**  
**CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**

Erklärung gemäß Regel 4.17:

— Erfindererklärung (Regel 4.17 Ziffer iv) nur für US

Veröffentlicht:

— mit internationalem Recherchenbericht  
— vor Ablauf der für Änderungen der Ansprüche geltenden  
Frist; Veröffentlichung wird wiederholt, falls Änderungen  
eintreffen

(88) Veröffentlichungsdatum des internationalen

Recherchenberichts: **24. Dezember 2003**

Zur Erklärung der Zweibuchstaben-Codes und der anderen Ab-  
kürzungen wird auf die Erklärungen ("Guidance Notes on Co-  
des and Abbreviations") am Anfang jeder regulären Ausgabe der  
PCT-Gazette verwiesen.

(54) Title: **FUNCTIONAL FOODS CONTAINING A PHOSPHOLIPID-CONTAINING STABLE MATRIX**

(54) Bezeichnung: **FUNKTIONSNÄHRUNGSMITTEL ENTHALTEND EINE PHOSPHOLIPID-HALTIGE STABILE MATRIX**

(57) Abstract: The inventive functional foods and special foods each contain a physiologically compatible phospholipid-containing stable matrix, comprised of a supporting material and of a bioactive constituent, whereby the phospholipid constituent is, in particular, phosphatidylserine, phosphatidylcholine and the like, as well as lyso variants and/or derivatives thereof. The functional foods are preferably provided in liquid, solid and semi-liquid dosage forms, and special nutrition is preferably to be considered from the range of special foods. The matrix inserted therein should preferably comprise a liquid content and, in particular, diameters ranging from 0.1 µm to 5.0 mm. Also preferred is when the matrix displays a delayed release after ingestion thereof with the respective foods, whereby this delayed release should preferably occur in the gastrointestinal tract.

(57) Zusammenfassung: Die beanspruchten Funktionsnahrungsmittel und Sondernahrungsmittel enthalten jeweils eine physiologisch verträgliche Phospholipid-haltige stabile Matrix, bestehend aus einem Trägermaterial und einer bioaktiven Komponente, wobei es sich bei der Phospholipid-Komponente insbesondere um Phosphatidylserin, Phosphatidylcholin und ähnliche, deren Lyso-Varianten und/oder Derivate handelt. Als Funktionsnahrungsmittel werden flüssige, feste und halbflüssige Darreichungsformen bevorzugt; aus der Reihe der Sondernahrungsmittel ist Sondennahrung als bevorzugt anzusehen. Die darin eingesetzte Matrix sollte vorzugsweise einen flüssigen Inhalt aufweisen und insbesondere Durchmesser zwischen 0,1 µm und 5,0 mm besitzen. Bevorzugt wird auch, wenn die Matrix nach deren Einnahme mit den jeweiligen Nahrungsmitteln eine verzögerte Freisetzung entfaltet, was vorzugsweise im GI-Trakt geschehen sollte.



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## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 03/04032

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K9/48 A61K9/20 A23L1/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A23L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data, BIOSIS, MEDLINE, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 84961 A (HAGEMAN ROBERT JOHAN JOSEPH ;NUTRICIA NV (NL); KILIAAN AMANDA JOHA) 15 November 2001 (2001-11-15) page 5, line 17 -page 6, line 7 page 13 -page 15; examples 1-5 claims 1-18 ---	1-22
X	EP 0 072 469 A (HOCHSCHILD RICHARD) 23 February 1983 (1983-02-23) page 15, line 1 -page 18, line 4 ---	1-22
X	WO 01 70206 A (JAVOR ANDRAS ;SZEKELY AKOSNE (HU); PELLIONISZNE PAROCZAI MARGIT (H) 27 September 2001 (2001-09-27) page 6 -page 7; examples 1-4 claims 2-6 --- -/--	1-22

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the International filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

2 September 2003

Date of mailing of the international search report

17/10/2003

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 03/04032

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 92 11294 A (FIDIA SPA) 9 July 1992 (1992-07-09) page 36 -page 39; examples 2.1-2.9 -----	1-22
P,X	WO 02 078464 A (GEISS KURT-REINER ;GIVENTIS GMBH (DE)) 10 October 2002 (2002-10-10) page 10, line 15 -page 11, line 15 claims 1-12 -----	1-22

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP03/04032**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Although Claim 22 relates to a method for treatment of the human or animal body, the search was carried out on the basis of the stated effects of the composition.
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/04032

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0184961	A	15-11-2001	AU 5511401 A CA 2408032 A1 EP 1282365 A2 WO 0184961 A2 US 2002040058 A1	20-11-2001 15-11-2001 12-02-2003 15-11-2001 04-04-2002
EP 0072469	A	23-02-1983	US 4374082 A AU 8693682 A EP 0072469 A2 JP 58041815 A	15-02-1983 24-02-1983 23-02-1983 11-03-1983
WO 0170206	A	27-09-2001	HU 0000997 A2 EP 1272197 A2 WO 0170206 A2	28-11-2002 08-01-2003 27-09-2001
WO 9211294	A	09-07-1992	IT 1243300 B AU 658594 B2 AU 9096491 A BR 9106234 A CA 2075970 A1 CN 1062537 A WO 9211294 A1 EP 0516792 A1 FI 923762 A HU 62917 A2 JP 5504785 T NO 923240 A PT 99898 A	26-05-1994 27-04-1995 22-07-1992 30-03-1993 21-06-1992 08-07-1992 09-07-1992 09-12-1992 20-08-1992 28-06-1993 22-07-1993 19-10-1992 31-12-1992
WO 02078464	A	10-10-2002	WO 02078464 A2 EP 1335732 A2	10-10-2002 20-08-2003